

Patent Claims

1. Optical coupling device for cross-coupling light
from a first optical waveguide (20) into a second
optical waveguide (30), it being possible to
influence the relative position of the two optical
waveguide end faces in relation to each other with
the aid of a variable-length element (2, 26, 46,
66, 86) that holds the first optical waveguide
(20) in a ferrule (6, 24, 44, 64, 84), and the
variable-length element (2, 26, 46, 66, 86) being
~~fixed to a unit containing the second optical~~
waveguide (30) via a first holding element (4, 28,
48) and having a guide device (38, 40) which
permits the element (2, 26, 46, 66, 86) to
lengthen only in a spatial direction oriented
substantially parallel to the longitudinal axis of
the element.
2. Device according to Claim 1, characterized in that
the ferrule (6, 24, 44, 64, 84) is inserted into a
hole in the variable-length element (2, 26, 46,
66, 86).
3. Device according to one of the preceding claims,
characterized in that the guide device has a
second holding element (40, 58, 74) as an
abutment, on which the variable-length element
(26, 46, 66, 86) is guided parallel to the
expansion direction of the variable-length
element.
4. Device according to Claim 3, characterized in that
the guide device has a ferrule (36) which is
connected to the variable-length element (26) and
which is mounted in a hole in the second holding
element (40) such that it can be displaced in the
direction of the axis of the variable-length

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element (26) in which the variation in length takes place.

- 5 5. Device according to Claim 4, characterized in that the ferrule is guided in the second holding element (40) via a sleeve (38).
- 10 6. Device according to Claim 3, characterized in that the guide device has a ferrule which is connected to the second holding element (40) and which is mounted in a hole in the variable-length element ~~such that it can be displaced in the direction of~~ the axis of the variable-length element in which the variation in length takes place.
- 15 7. Device according to Claim 6, characterized in that the ferrule is guided in the variable-length element via a sleeve.
- 20 8. Device according to Claim 3, characterized in that the guide device is formed by a tongue and groove connection between the variable-length element and the second holding element (58).
- 25 9. Device according to Claim 3, characterized in that the second holding block (74) has a U-shaped cross section, and in that the variable-length element (56) is guided in the U-shaped cross section of the second holding element (74).
- 30 10. Device according to Claim 3, characterized in that an abutment (92), which engages on the second optical waveguide in a displaceable manner, is fixed to the variable-length element (86).
- 35 11. Device according to Claim 8, characterized in that the abutment has on one side a spring (96) between one end of the abutment and the second optical waveguide (90) and on the other side a setting

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screw (100) between another end of the abutment
and the second optical waveguide (90).
